Environmental Management Systems

An EMS Overview and Guide to Facilitator Services

This document provides a brief explanation of Environmental Management Systems (EMS) and offers recommendations for EMS development/implementation. It is intended for informational and reference purposes only. The Massachusetts Office of Technical Assistance (OTA) does not imply or warrant results based on its use.

Introduction to EMS

An EMS is a quality based management system that effectively integrates environmental considerations into an organization's day-to-day operations and management culture. The structure of an EMS may vary, though the most common is the ISO 14001 standard because it offers the opportunity to become certified. ISO 14001 certification is an effective and widely recognized method for demonstrating an organization's commitment to environmental performance and quality management, which can make it a valuable marketing and contracting tool for many businesses.

Prior to EMS, most organizational management strategies did not explicitly consider environmental factors, except in terms of overall regulatory compliance. Besides perpetuating the gap between economic and environmental goals, this old structure failed to take advantage of the tremendous financial benefits that result from integrating environmental performance criteria into an organization's management structure. Today, all firms, not just giants such as Ford Motor Company and their supply chain, have an opportunity to join the community of large and small organizations worldwide that are recognizing and taking advantage of EMS.

The EMS structure recognizes that environmental and economic performance is directly linked, particularly when production resources such as raw materials, energy, and water are limited. Many of the economic and environmental benefits from implementing an EMS are derived from the proactive approach of pollution prevention, as opposed to "end-of-the-pipe" pollution control. Pollution prevention strategies help reduce or eliminate environmental concerns at the source, resulting in less waste, more efficient use of inputs, reduced risk and liability that may be reflected in lower insurance premiums and avoided contingency expenses, and many other environmental, health, safety, and financial benefits. It also enhances the organization's reputation and image in the local community and creates a greater awareness of the environmental performance within the organization across all departments, which can help improve overall management planning and promote cooperation.

Organizations that report under the Massachusetts Toxics Use Reduction Act (TURA) may benefit significantly by incorporating several elements of that effort into an EMS, including materials accountability. This entails not only concern for hazardous or waste materials, but on the prudent use of all materials by the organization.

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Six Key Elements of an EMS

1. Environmental Policy: An organization's environmental policy serves as the basis for EMS design and implementation. It sets out the organization's goals and defines the actions the organization will follow. Environmental policies should demonstrate a commitment to compliance, pollution prevention, and the well being of employees, customers, and the local community. The policy must be approved by top management and communicated to all employees, since they will play an integral role in meeting the goals of the policy.

2. Planning: Modifying an organization's standard operating procedures to meet the goals of the new Environmental Policy can be a complex undertaking – but it does not need to disrupt ongoing operations. Careful planning allows the organization to proceed with implementation of an EMS in a logical, orderly manner. Planning should include comprehensive analysis of an organization's operations and the inherent environmental impacts, as well as consideration of the steps necessary to meet new goals.

3. Implementation and Operation: Implementation of an EMS will likely require across-the-board training and other forms of support to acclimate all levels of staff to new priorities and practices. Documented procedures help establish and maintain momentum towards the organization's environmental and economic performance goals. Roles and responsibilities should be clearly defined for all staff.

4. Checking and Corrective Action: Maintenance of an EMS fosters a high level of organizational discipline. Auditing, monitoring, and measurement of environmental indicators are necessary to achieve the goals and objectives defined in the Environmental Policy. They also provide opportunities to create performance incentives for all levels of staff.

5. Management Review: The development, implementation, and maintenance of a *successful* EMS must be strongly supported by an organization's top management. Top management review strengthens the awareness and commitment through leadership of the EMS goals; it also assigns decisions regarding staff responsibilities and performance evaluation to the highest level of authority. Management review should seek to ensure continuing suitability, adequacy, and effectiveness of the organization's operations and practices. It should be conducted on a regular schedule and follow a specific, clearly defined protocol. To emphasize this key element, the first requirement of the official ISO 14001 guidelines stipulates that the organization's environmental policy (the centerpiece of an EMS) be developed by the senior management.

6. Continual Improvement: Continual improvement is an inherent outcome of an effectively implemented EMS. Performance reviews and updating the gap analysis can help guide the organization's progress. Improvements should emphasize preventive actions.

Office of Technical Assistance (OTA) Support

Our mission states that "OTA will promote toxics use reduction, environmental performance, health and safety, and economic competitiveness among public and private entities. OTA will commit to continuous improvement in environmental stewardship and the quality of life in the Commonwealth." EMS assistance provided by OTA is available to all organizations in the form of information and directional guidance to augment a firm's effort to develop an EMS structure. This service is non-binding and offered at no charge. However, firms should be prepared to provide hands-on, day-to-day facilitation and training to the degree that is available from in-house or outside facilitators.

Facilitator Services

EMS Implementation: The facilitator must have the skills to engage the entire staff with the implementation of the EMS. This includes the formation of an EMS implementation team as well as assigning implementation responsibilities where needed. Facilitators are expected to help answer questions and guide the process throughout the entire project.

EMS Team: An organization's EMS Team should include the best candidates selected from various departments/areas of the organization. For companies this would include such areas as purchasing, maintenance, information management, legal, production, and others as appropriate. The facilitator should provide the team instruction on the principles of the EMS structure and training as needed. With the team, the facilitator should also be responsible for developing a preliminary action plan detailing the steps necessary for establishing an EMS. This plan should identify the necessary procedures, specify activities needed to address existing issues, target and prioritize issues, and identify steps necessary to prevent potential issues.

Gap Analysis: The development of an EMS generally begins with an initial assessment of the organization, known as a "gap analysis," which identifies the current management elements and those elements that need to be modified or developed. The gap analysis, conducted by the facilitator and EMS team, should be documented and presented to management. Once completed, it serves as a roadmap for the EMS development and is updated as progress is made.

Training: Implementation of an EMS will likely involve some shift in the organization's management culture, priorities, and procedures. The facilitator serves the important role of providing guidance to the organization's EMS team on effective implementation procedures. Once trained, the EMS team members become the in-house trainers for the rest of the organization's staff. The facilitator continues to mentor these trainers throughout the process and recommend educational tools as appropriate. Training should be modeled from the gap analysis and encompass all elements that involve an addition or change to existing operating procedures. Schedules for initial training and training refreshers should be established, with priority given to the most crucial issues.

Time Frame: The facilitator should provide a time frame for completion of the project, including interim milestones. Payment to a contracted facilitator should be based on successful attainment of these milestones.

Choosing Facilitator Services: An EMS is tailored to meet the individual needs of the firm that it is developed for; there is no "one-size fits all." Some can be done entirely in-house while others require special expertise from outside contractors. By understanding your EMS needs and the qualities to look for in an EMS facilitator, you will be able to make more informed and cost-effective decisions.

When selecting an EMS facilitator, begin by contacting at least three contractors that are recommended by others, either from personal experience, or from professional organizations such as the American Society for Quality (ASQ). In general, look for facilitators that have experience with implementing EMS and, if possible, familiar with your type of business. Although your firm may not decide to become ISO 9001 or 14001 certified, find out if the facilitator has experience in bringing companies into ISO certification – typically after the basic EMS is in place, firms then decide to continue on to become certified. It is also important to ask potential facilitators to provide you with references from former clients and, if applicable, current clients.

Another step in successfully selecting an EMS facilitator is to have a request for contract proposals that clearly defines your EMS needs and facilitator requirements. If your company is hiring an EMS facilitator for the first time, you may want to utilize the information provided in Figure 1 to assist you in developing a request for contract proposals. Keep in mind that when reviewing the proposals that you should verify the information provided, including the length of EMS implementation (usually a minimum of 6-12 months) and the experience of the actual project staff.

Figure 1. A template for requesting EMS contract proposals.

Background

This is a request for contractor assistance with an effort by XYZ Co. to establish an Environmental Management System (EMS) that will aid in the identification, addressing, and prevention of environmental, health and safety (EHS) problems. The EMS should be of a caliber that will provide an opportunity for XYZ to continue on to certification in ISO 14001 should it so desire.

Overview

XYZ is engaged in the production of gadgets and has determined that an EMS would be beneficial in maintaining its environmental operations and programs. The objective of implementing the EMS is to improve the EHS-related operations so that they function in a fashion that is in compliance with regulations and good management practices. XYZ desires a quality management system that completely integrates environmental considerations into an organization culture and procedures (so they become "second nature"). The contractor will receive the full support of management in this endeavor.

Gap Analysis

It is expected that a "gap analysis" will be performed to determine the status of the current management system relative to what is in place, identify what is in need of improvement and what needs to be initiated. The results of the analysis will be documented and formally presented to management. The gap analysis must be structured such that it can be updated.

EMS Team

Upon completion of the gap analysis the contractor will act as an advisor/facilitator and assist in the formation and training of an EMS steering committee ("team"). The team will consist of representatives from various departments/areas of the company such as purchasing, maintenance, information management, legal, production and others as appropriate. The contractor will provide instruction on the principals of EMS organization and operation, and training on the various aspects of successful EMS implementation. The contractor will be responsible for developing with the team a preliminary action plan that details the prioritization of issues and specification of necessary steps based on these issues. Necessary steps should include the establishment of practices that prevent or minimize the potential for certain liabilities.

Training

The contractor will be responsible for providing guidance on implementing EMS procedures by training team members to serve as trainers, mentoring training sessions, and recommending educational tools. The training will encompass all areas identified by the gap analysis as lacking direction, needing reinforcement, and requiring closer attention. Areas where initial training, retraining, and refresher training are required will be identified and prioritized.

EMS Implementation

The contractor will assist XYZ in the initiation of the EMS by providing guidance that will engage all employees in EMS awareness. Such engagement could include formation of an implementation committee, quality improvement teams, and assigning implementation responsibilities. Availability by the contractor to respond to questions and situations is expected throughout the project.

Completion

The contractor will provide a projected completion date with interim milestones. Payment to the contractor will be based on successful attainment of these milestones.

(At this point XYZ Company should include their standard procurement procedures and requirements.)